

ABSTRACT

By using oxygen-containing silicon wafers obtained by the CZ method and by combining the first heat treatment comprising controlled heat-up operation (ramping) with the second heat treatment comprising high-temperature heat treatment and medium temperature heat treatment in accordance with the process for producing high-resistance silicon wafers according to the present invention, it is possible to obtain high-resistance silicon wafers capable of maintaining their high resistance even after heat treatment in the process of device manufacture while efficiently inhibiting the formation of oxygen donors and preventing changes in resistivity. Further, excellent epitaxial wafers and SOI wafers can be produced using those high-resistance silicon wafers and, therefore, they can be applied in a wide field including high-frequency communication devices and analog/digital hybrid devices, among others.